RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:

Source:

Date Processed by STIC:

ENTERED



IFWO

RAW SEQUENCE LISTING DATE: 11/24/2004 PATENT APPLICATION: US/10/785,156 TIME: 12:41:52

Input Set : A:\3840-006-27.ST25.txt

Output Set: N:\CRF4\11242004\J785156.raw

```
4 <110> APPLICANT: Sehgal, Lakshman R.
         Wong, Jonathan
  5
 6
         Seth, Prem
  8 <120> TITLE OF INVENTION: Therapeutic Applications of Thrombomodulin Gene Via Viral
         Non-Viral Vectors
 11 <130> FILE REFERENCE: 3840-006-27
 13 <140> CURRENT APPLICATION NUMBER: US 10/785,156
 14 <141> CURRENT FILING DATE: 2004-02-25
 16 <150> PRIOR APPLICATION NUMBER: US 60/449,408
 17 <151> PRIOR FILING DATE: 2003-02-25
 19 <160> NUMBER OF SEQ ID NOS: 6
 21 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 23 <210> SEQ ID NO: 1
24 <211> LENGTH: 13599
25 <212> TYPE: DNA
 26 <213> ORGANISM: Artificial Sequence
28 <220> FEATURE:
29 <223> OTHER INFORMATION: gutless backbone shuttle vector
31 <400> SEQUENCE: 1
32 catcatcaat aatatacctt attttggatt gaagccaata tgataatgag ggggtggagt 60
33 ttgtgacgtg gcgcggggcg tgggaacggg gcgggtgacg tagtagtgtg gcggaagtgt 120
34 gatgttgcaa gtgtggcgga acacatgtaa gcgacggatg tggcaaaagt gacgtttttg 180
35 gtgtgcgccg gtgtacacag gaagtgacaa ttttcgcgcg gttttaggcg gatgttgtag 240
36 taaatttggg cgtaaccgag taagatttgg ccattttcgc gggaaaactg aataagagga 300
37 agtgaaatet gaataatttt gtgttaetea tagegegtaa taetggtaee geggeegeet 360
38 cgagtctaga actagtggat cccccgggct gcaggaattc tgatggctct caaaattcct 420
39 gcctccttta gggataaaag actttaagac tttttaacaa aaaagaaaaa gaaaaaaaa 480
40 attectgeet cetggtgtac acacacagaa gggtteeete ceettgaatg tgaccaggat 540
41 ctgtgaaaat aacgggatag ccgctcctgt gattaggtta tgtggtagac tagagcaaga 600
42 ttctcctgct ggttttgaag aagtcagctg ccatgttgtg agactgtcat gggctagggc 660
43 atgageettt aaatatetgg gageaaceee tggeeageag eeagtgagaa aacgggeeet 720
44 cagteetaca ateacaagga actaaattet gecaacaace tgaaggaact ttgaagagga 780
45 teatgagtee ettgatteag ettgatgage eeetgageag aggatacage taacttgtae 840
46 tagggaagta taaaaaacat gcatgggaat gatatatatc aactttaagg ataattgtca 900
47 tacttetggg aatgaaggga aagaaatggg getttagttg tattatgate tttaatttet 960
48 caaaaaaaat aagatcagaa gcaaatatgg caaaatgtta atacttttgt gggtacgtag 1020
49 gtattcagca taccettttt tetgagttca aaatatttta taattaaaat gaaatgcagg 1080
50 ccaggeacag tggeteatge etataataee ageaetttge gaggeegagg tgggaggatg 1140
51 gcttgaggcc agaccagcct ggccaacatg gcaaaacccc atctctactt aaaaaaaaa 1200
52 aaactatata tatatatat tgtgtgtgtg tgtatatata tatatgtata tatatttata 1260
```

55 tggtggegea cacctgtagt cccagctact tgggaggetg agacatgaga attqcttgaa 1440

and

RAW SEQUENCE LISTING DATE: 11/24/2004
PATENT APPLICATION: US/10/785.156 TIME: 12:41:52

Input Set: A:\3840-006-27.ST25.txt
Output Set: N:\CRF4\11242004\J785156.raw

56 cctgggaggc agagtagtta gtgagctgag atcataccac tgcactccag cctggtgaca 1500 57 gagtgagact ctgtcttaaa aaaaataaaa attaaaatta aatgcaaaag gtccaagtga 1560 58 attgaagagg aaaggggtat caaggaggtt ttgtggaggt gacgtttgag ctgggtctta 1620 59 aatgacttaa acatgggata agaagggagg gaataaggac attttcaggt acgagaaata 1680 60 aggagcaaac agtggaaaca acctaacgtc tgtcaaccag tgaatggata acaaaaatgt 1740 61 aatcagatgg tatccaactt acgatggttc aacatgagat ttttctgact ttaggataga 1800 62 tttatcaaag tagtaaatcc attttcaact tatgatattt tcaacttcag atgggtttat 1860 63 caggacacag ttgaggaaca cetgtetate catacaattt ggcaataaaa aggaaatgag 1920 64 tgcagatata ctccacaaca tgaatgaacc ttgaaaacat taagtgagag aagccagata 1980 65 caaaaggcca catattgtat gattctattt atacaaaatg tccagaatag gcaaatctta 2040 66 tagacagcaa gtaggtagat gatcagtttg ctaggtgctg ggggaagggg aaatggggag 2100 67 tgatggetaa ggggattggg tttetttgtg gggeaatgaa aatgttttaa aattgagegt 2160 68 gataatgatt gcacaatgct gcatatatat ataatctata gattatatat atataaagag 2220 69 aggetgttag acagtgataa gtgatatata tatatatata catagagaga gagagagaga 2280 70 gagagagagg ctgttagtga taagtgatca ggaaaataaa agtattgagg aggaatacga 2340 71 agttgacggt gtgaaaacat gagattttat ataggatggc cagggaaggc cttaatgaga 2400 72 aagtgactta tgagtaaaaa caagggatcc taaaccttag catgcatcag aatcactcgg 2460 73 aaacttqtta aagcataget tgetgggeet cateacagat attttgatte ggtaggttet 2520 74 tgtctgatat taatactttt ggtctaggga accacatttt gagaaccact gagctaaagg 2580 75 aagtaaaggt ttcccttagt ttactagctg gtaaccctag gaaactgctt agcctctcgg 2640 76 tgctaagata caaaatactt tagcacataa taacacatgg aaaatagtct ataaattata 2700 77 aatattattt tttatgtacc aaatattaca taagacaaaa tctaagcaag atatatatat 2760 79 gttatgttta gaaagaaaat acttcaaact aaaaaaagag aggtaggaag tataccattc 2880 80 cattattggt aaaaacaaat tactaagtag tetttacaaa aaaccaatet cacteetta 2940 81 gaacacaagc ccaccattaa aactgatgca gaggaatttc tctccctggc ttacctttag 3000 82 gatggtgcat actaagttag aaaagtcata aatgttatat taaaagtaaa tgtgaactta 3060 83 cttccacaat caagacattc tagaagaaaa agagaaatga aaatcagtac aatgaataaa 3120 84 acggtatttc caattataag tcaaatcaca tcataacaac cctaaggaat tatccaaact 3180 85 cttgttttta gatgctttat tatatcaaac tctcctttaa acaagtggcc catctgctgg 3240 86 gatttggaag cctgtaatac tgaaattttc atcataatgg aaattttaaa aacagaattt 3300 87 gacccacctg tttttaaaac actttcatta cttaacaaga ggtctaatct tgggcaagtc 3360 88 ttgaaatttc tctggcctta gtttccatgt gttaaatgaa acttgaagca gttggtctct 3420 89 tatagtetee tgaetetaae attetaagaa ttatatttgt acaataaete aaaaateaea 3480 90 taatttaatt taccatatgg actccaaaat atattttctc attaggctaa acttgatctg 3540 91 cattttctgg atgtgtccat attcttggac tacactaaaa catgatacca atgcttcctc 3600 92 tcaccataaa cccctcactt cgctttctac atttaagaat tttatagctg gaagagtcct 3660 93 taacagaaaa taccatctaa taattacccc tcaaaaatcga gaaagtccta tctgttctta 3720 94 tgctagttat aagaatgagg cagcatttca cataatggtt ataaacactg ccacaagaag 3780 95 attcatgatg tgttgtttat ctgtagctct catcatactc tgtcatataa ctatagcatt 3840 96 aagattttaa tgttotatat attottotaa gacagtgttt accagagtaa ggcacaaaag 3900 97 atccactggt ttgcaagaaa gattagaact tttaaatttt ttacctcacc ttgtttaatc 3960 98 tatatttttg tatgtatttt gtaacatata tattattatt accataaatc atatataatt 4020 99 taaaatgcat atattagggg taaatgctca ggaaactttt tataaattgg gcatgcaaat 4080 100 acaagtttga agactcactg ttctaggtat taaaagtaaa gttataacca agtaaagctt 4140 101 ccaccttttc atgtctcaaa gcagtttatt gttggaggta agatctctta gaagcctaaa 4200 102 caggtecaag tacagaatga agtaaggeta geecataaet tgtggeaage aatteataet 4260 103 atttctctca tqctqaqctc tcctcaqtqa aqcaqctact atagacaact gcagcctatt 4320 104 qqtaqcctat tttacaqqca qqaaaaaaat tactttttat tcaaagtqqa actcaqgaca 4380

RAW SEQUENCE LISTING DATE: 11/24/2004 PATENT APPLICATION: US/10/785,156 TIME: 12:41:52

Input Set : A:\3840-006-27.ST25.txt
Output Set: N:\CRF4\11242004\J785156.raw

			aaaataggtc				
			ttgtatgagg				
			catgcaattg				
			aaacaaaaga	_			
			ataaatgaga				
			tattagagac				
			ggaaaagagg				
			acaaaatgag				
			gcaggtggat	_			
			tctctactaa				
			cttgggagtc				
			gatcgtacta				
			aataaataaa				
			ataactttca				
			tcatgaaaag				
	_		aacagagcca				
			aggtccattc				
			tggacaaagc				
			ggggcaaagc				
			acatgaccct				
			atagatactc				
			agtcaggtct				
			tcttttaacc				
		-	acaggattgt			-	
			aacaataact				
			actctcaaaa	-	_		
			ttattttcag	_	_		
			ggaaatctaa				
			gttcacacta				
			tatgtctgaa				
		-	agcacttaat				
			gacacagaga				
			tgaatcagtt				
			atcttttagg				
			ttttttaaa				
			ccacagaggc				
			ctgtcttttt				
		-	aataacccat		-		
			ttactaattg				
	_		cagttaaagt				
			tctagttaaa				
			tatccttatg				
			gctagctaat	_	_		
			tcctgaaatg				
			atcggccatt				
			aagtgggtag		-		
			gaagttatta				
			aattgtaagg				
153	tatgtccctc	aaaagtctag	cccaggcccc	gtcatcttca	gcatcatctg	ggaaaccagg	7320

RAW SEQUENCE LISTING DATE: 11/24/2004 PATENT APPLICATION: US/10/785,156 TIME: 12:41:52

Input Set : A:\3840-006-27.ST25.txt
Output Set: N:\CRF4\11242004\J785156.raw

154	tctgattagt	agtcctttaa	ggaatacctc	ttaggctccc	attttactgc	tatcacagaa	7380
155	tccaataaaa	cccttacagg	agattcaatg	ggaaatgctc	aacacccact	gtagttggtg	7440
156	gtgacaatga	ccataatttg	gctgtgctgg	attcaggaca	gaaaatttgg	gtgaaagagc	7500
157	aggtgaacaa	.aagagcttcg	acttgcccta	gcagagagca	agccatacca	taccacaaag	7560
158	ccacagcaat	tacaacggtg	cagtaccagc	acagtaaatg	aacaaagtag	agcccagaaa	7620
159	cagacccaga	actatatgag	gatttagtat	acaataaaga	tggtatttcg	agtcagtagg	7680
				tggccaacta			
161	taaaagtatg	gtccctacct	cacagcatac	acaaaaataa	attccagacg	gattaaaatc	7800
162	taaatgtaaa	aaataaagcc	ataagtggac	tggaagaaaa	tagagaattt	tttttaacat	7860
163	ccgtagaaag	ggtaaaaacc	caggcatgac	atgaaccaaa	actgaagagg	ttctgtaaca	7920
164	aataccccct	tttatatatt	gggctccaac	aataagaacc	cataggaaaa	tggagaatga	7980
165	acacaaatag	acaatttata	gaagagaagg	ttataaggtg	taaaattata	tctatctgag	8040
166	aaacaaacac	taaaacaatg	tgattctact	gttctcccac	ccatactggc	aaaacttaag	8100
167	cctgataata	tgctgagggg	aaataagcac	tcttgttggt	gagagtatta	attggcatag	8160
168	cttcttttga	aaatgacata	gcaatacctg	ttaaaattgc	aaacatgcat	gtcacttaat	8220
				acaaaaacac			
170	attcaagagt	gttcactggg	ccgggtgcgg	tggcttcatg	cctgtaatcc	cagggaggca	8340
171	gaggcaagac	gatcgcttga	ccccaggagt	tcaaggccag	cccgagaaac	acagcaagac	8400
				aatgttcact			
173	caaaccaaca	tgtccattaa	cagggaacca	tttaaattaa	tcaagttcat	ctacacaatg	8520
174	taataccatg	caactattaa	aaagcacctg	ataatccaaa	gcacactgag	acagaataat	8580
				gtgttgccta			
176	atttaaacaa	atttgtaaca	gcaattacat	gagtagtgac	aatggcgttt	atgagacttt	8700
177	tcacttttat	gtgcttctat	ttttgttatg	cttctatata	tacatccatt	tattatggag	8760
				tattatttgg			
				ctcaatttag			
				aacatacaga			
				cagatgacag			
				gagatacctg			
183	ttgatgtctt	tacagagaca	agaggaataa	aggaaaaaat	attcaagaac	tgaaaagtat	9120
184	ggagtcatgg	aaaaattgct	gtgatccaaa	ggctacggtg	ataggacaag	aaacaagaga	9180
				tagcatccaa			
				atctcactat			
				ggcctcctaa			
				ttaactctct			
				gtaatggtat			
				gcatacatgg			
				tggctgtctg			
				ttatggttaa			
				tgctctaccc			
				gtcctgaact			
195	cataaaattg	ccagagaagc	tctttgggac	tacaaacaca	tacccttaat	gtctttattt	9840
				aaaaatagga			
				ttttgaaaac			
198	tgcagcatgg	tatagaaaaa	gaggaggaaa	gctgtataga	aatgcataat	aaatgggcag	10020
199	gaaaagaact	gcttggaaca	aacagggagg	ttgaactata	aggagagaaa	gcagagaggc	10080
200	taatcaacaa	ggctgggttc	ccaagagggc	atgatgagac	tattactaag	gtaggaatta	10140
201	ctaagggctc	catgtcccct	tagtggctta	gtactatgta	gcttgctttc	tgcagtgaac	10200
202	ttcagaccct	tcttttagga	tcctagaatg	gactttttt	ttttatcgga	aaacagtcat	10260

RAW SEQUENCE LISTING DATE: 11/24/2004 PATENT APPLICATION: US/10/785,156 TIME: 12:41:52

Input Set : A:\3840-006-27.ST25.txt
Output Set: N:\CRF4\11242004\J785156.raw

203 teteteaaca tteaageagg eeceaagtet accaectea ateacatttt etetteatat 10320 204 cataatctct caaccattct ctgtcctttt aactgttttt ctataccctg atcaaatgcc 10380 205 aacaaaagtg agaatgttag aatcatgtat ttttaqaqqt agactgtatc tcaqataaaa 10440 206 aaaaaagggca gatattccat tttccaaaat atgtatgcag aaaaaataag tatgaaagga 10500 207 catatgctca ggtaacaagt taatttgttt acttqtattt tatqaattcc ctaaaaccta 10560 208 egicaceege ecegiteeca egeceegege caeqicacaa actecaceec etcattatea 10620 209 tattggcttc aatccaaaat aaggtatatt attgatgatg ttaattaaca tgcatggatc 10680 210 catatgcggt gtgaaatacc gcacagatgc gtaaggagaa aataccgcat caggcgctct 10740 211 tccgcttcct cgctcactga ctcgctgcgc tcggtcgttc ggctgcggcg agcggtatca 10800 212 getcactcaa aggeggtaat aeggttatee acaqaatcaq qqqataacqc aqqaaaqaac 10860 213 atgtgagcaa aaggccagca aaaggccagg aaccgtaaaa aggccgcgtt gctggcgttt 10920 214 ttccataggc tccgccccc tgacgagcat cacaaaaatc gacgctcaag tcagaggtgg 10980 215 cgaaacccga caggactata aagataccag gcgtttcccc ctggaagctc cctcgtgcgc 11040 216 teteetgtte egaceetgee gettaeegga taeetgteeg eettteteee ttegggaage 11100 217 gtggcgcttt ctcatagctc acgctgtagg tatctcagtt cggtgtaggt cgttcgctcc 11160 218 aagetggget gtgtgeaega acceeegtt eageeegace getgegeett ateeggtaae 11220 219 tategteftg agtecaacce ggtaagacae gaettatege caetggeage agceactggt 11280 220 aacaggatta gcagagcgag gtatgtaggc ggtgctacag agttcttgaa gtggtggcct 11340 221 aactacggct acactagaag gacagtattt ggtatctgcg ctctgctgaa gccagttacc 11400 222 ttcggaaaaa gagttggtag ctcttgatcc ggcaaacaaa ccaccgctgg tagcggtggt 11460 223 ttttttgttt gcaagcagca gattacgcgc agaaaaaaag gatctcaaga agatcctttg 11520 224 atcttttcta cggggtctga cgctcagtgg aacgaaaact cacgttaagg gattttggtc 11580 225 atgagattat caaaaaggat cttcacctag atccttttaa attaaaaatg aagttttaaa 11640 226 tcaatctaaa gtatatatga gtaaacttgg tctgacagtt accaatgctt aatcagtgag 11700 227 gcacctatct cagcgatctg tctatttcgt tcatccatag ttgcctgact ccccgtcgtg 11760 228 tagataacta cgatacggga gggcttacca tctggcccca gtgctgcaat gataccgcga 11820 229 gacccacgct caccggctcc agatttatca gcaataaacc agccagccgg aagggccgag 11880 230 cgcagaagtg gtcctgcaac tttatccgcc tccatccagt ctattaattg ttgccgggaa 11940 231 getagagtaa gtagttegee agttaatagt ttgegeaaeg ttgttgeeat tgetgeagee 12000 232 atgagattat caaaaaggat cttcacctag atccttttca cgtagaaagc cagtccgcag 12060 233 aaacggtgct gaccccggat gaatgtcagc tactggqcta tctgqacaag ggaaaacgca 12120 234 agegeaaaga gaaageaggt agettgeagt gggettaeat ggegataget agaetgggeg 12180 235 gttttatgga cagcaagcga accggaattg ccagctgggg cgccctctgg taaggttggg 12240 236 aagccctgca aagtaaactg gatggctttc ttgccgccaa ggatctgatg gcgcagggga 12300 237 tcaagetetg atcaagagae aggatgagga tegtttegea tgattgaaca agatggattg 12360 238 caegeaggtt eteeggeege ttgggtggag aggetatteg getatgaetg ggeacaacag 12420 239 acaategget getetgatge egeegtgtte eggetgteag egeaggggeg eeeggttett 12480 240 tttgtcaaga ccgacctgtc cggtgccctg aatgaactgc aagacgaggc agcgcggcta 12540 241 tegtggetgg ceaegaeggg egtteettge geagetgtge tegaegttgt caetgaageg 12600 242 ggaagggact ggctgctatt gggcgaagtg ccggggcagg atctcctgtc atctcacctt 12660 243 gctcctgccg agaaagtatc catcatggct gatgcaatgc ggcggctgca tacgcttgat 12720 244 ccggctacct gcccattcga ccaccaagcg aaacatcgca tcgagcgagc acgtactcgg 12780 245 atggaagccg gtcttgtcga tcaggatgat ctggacgaag agcatcaggg gctcgcgcca 12840 246 geegaaetgt tegeeagget caaggegage atgeeegaeg gegaggatet egtegtgaee 12900 247 catggcgatg cctgcttgcc gaatatcatg gtggaaaatg gccgcttttc tggattcatc 12960 248 gactgtggcc ggctgggtgt ggcggaccgc tatcaggaca tagcgttggc tacccgtgat 13020 249 attgctgaag agettggegg egaatggget gaeegettee tegtgettta eggtategee 13080 250 getecegatt egeagegeat egeettetat egeettettg aegagttett etgaattttg 13140 251 ttaaaatttt tgttaaatca geteattttt taaceaatag geegaaateg geaaaateee 13200

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/785,156
DATE: 11/24/2004
TIME: 12:41:53

Input Set : A:\3840-006-27.ST25.txt
Output Set: N:\CRF4\11242004\J785156.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; N Pos. 349
Seq#:5; N Pos. 335

VERIFICATION SUMMARY

DATE: 11/24/2004

PATENT APPLICATION: US/10/785,156

TIME: 12:41:53

Input Set : A:\3840-006-27.ST25.txt
Output Set: N:\CRF4\11242004\J785156.raw

L:392 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:300 L:479 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:300